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VOCATIONAL SCHOOLS

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It is fair to say that culture refers to the power to feel and that training refers to the power to do. Educators and the general public are apt to divide into two camps: those who believe in culture and those who believe in training. The former say that the introduction of vocational subjects is a menace to the liberal arts. They go so far as to state that statesmen are more needed today than carpenters, and when they do concede that there is a need for vocational training, they limit its field of usefulness to those who can not hold to the pace of the scholarly elect. The professional educator in making an appeal for cultural training and in decrying vocational training makes, generally speaking, a bit of play to the galleries when he says, "We must make men, not mechanics," "Lives, not livelihoods"; "It is the man we must think of, not the job." Less eloquently, but more impressively, the staid, complacent captain of industry argues for the necessity of industrial schools and tells us that from his own experience in employing graduates that the public schools are inefficient. Very entertainingly the muckraking pen informs us that the public schools are stupid in method, impractical in plan, and absolutely ineffective in results. The writer turns the muck and spreads its odors broadcast.

The State of New York, through its Education Department, has rather definitely settled some of the points which are raised with reference to the question of whether we should train people to feel or to do. It has said that public schools should do both. It assumes that the State needs statesmen and carpenters. It assumes that people need culture and need training. It assumes that all of us should have the power to feel and the power to do. It definitely asserts that it is no longer a question of which it shall train — thinkers *or* workers. It is its business to train thinkers *and*

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workers. It is no longer cultural *versus* vocational training; it is liberal *and* vocational training.

Long ago the good son of Sirach said, "The wisdom of the scribe cometh by opportunity of leisure, and he that hath little business shall become wise." And in the next breath he asks, "How shall he become wise that holdeth a plow, that gloweth in the shaft of the good, that driveth oven . . . and whose discourse is that of the stock of bulls?" Like a good educational standpatter, the son of Sirach answered, "He will set his heart upon turning his furrows and his wakefulness is to give his heifers their fodder."

But it is no longer wisdom through leisure. It is knowledge through work. Furthermore, the measure of man is what he does with that which he knows as well as knowing well what he does. One can not separate his life from the business of the world. Farming today is something more than turning furrows or giving heifers their fodder. The learning of the alchemist has gone out of the world of philosophy and magic into the larger laboratory of the shop and the field. If we were to follow the advice of the son of Sirach we would have a few people doing our thinking and a larger number doing the work.

Vocational training goes further than making the man fit the job. It would do what it could to help make the job fit the man. This is no idle play on words for we find that the status of the job itself is always changing. Scientific applications enter into it. New fields of science open up. New questions of economics arise. When a man takes only a job, he may be a farmer. When he trains himself for the job, he is likely to become an agriculturist. A man may be either a horse doctor or a veterinarian; a plumber or a sanitary engineer; a machine hand or a machinist; a politician or a statesman. It all depends upon the simple question, Has he fitted himself to the lowest level of the job, or has he brought his job to the highest level of the man?

Some professional educators and some so-called practical men would attempt to confuse us. The former would have the educative process revolve around the man; the other would have it revolve around the job. But the Department in all its work in vocational training has kept clearly in mind that all knowledge taught in the schools and all training given is for use and for service, and all education is to prepare one for the vocation of living and living well and it is to find its expression in a better man and a better job.

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INDUSTRIAL ARTS IN THE ELEMENTARY AND SECONDARY SCHOOLS

During the past year considerable progress has been made in definitely organizing the drawing instruction in the State. A good measure of this progress has come out of an organized system of conferences in various sections of the State, where the teachers listen to and discuss proposed plans for simplifying and making a possible working drawing for all grades of schools.

Both syllabuses on drawing are full of excellent material, but teachers have found need of aid in developing a working plan. Suggestions growing out of these meetings have taken definite form in the shape of a drawing leaflet accompanied by three correlative charts which serve as a working guide for teachers and supervisors of the grades. This outline is expected to aid those teachers of drawing who have not had the advantage of special and technical training in the subject and who, because of the ordinary demands of other subjects upon their time, are unable to develop a working plan in a subject so special and technical.

The charts show the possibilities of correlating the subject of drawing to other subjects of the syllabus. By this means not only the supervisor but the regular grade teacher is enabled to apply quickly the work of the drawing period to other subjects and vice versa. For example, "Illustration" for the first four grades is charted with nature study, geography, reading and English; paragraphs in each subject, which lend themselves to illustration, are shown with reference pages.

In developing the scheme of conferences, the State specialist in drawing divided the State into eighteen sections and teachers met from surrounding villages in a centrally located city. The conferences were held in the following cities: Albany, Buffalo, Elmira, Hudson Falls, Kingston, Mineola, Oneonta, Plattsburg, Potsdam, Rochester, Syracuse, Utica, Watertown and Yonkers. As all meetings were held on Saturdays it was necessary in three instances to combine two meetings in one in order to cover the State, thus making a total of fifteen such gatherings held the first year. They were successful from the start and the general spirit was one of enthusiastic and earnest interest. In one instance five teachers drove fourteen miles in a bitterly cold wind to be in attendance. At each meeting an organization was formed and officers elected. Two conferences were held with teachers from the normal schools. Undoubtedly the key to the solution of how to obtain better drawing

in the elementary schools of the State lies in the quality of the teaching of this subject in the normal schools.

The results of the last June examination show technical improvement in the larger cities of the State. This is to be expected as specially trained teachers are employed in these cities. Notwithstanding the conscious efforts on the part of other teachers from the smaller places, the work in drawing continues to fall short of what might be justly expected. The chief reasons for such a condition are probably as follows:

1 Teachers in practically all but the schools of the larger cities have not received adequate training. It must be remembered that a teacher of drawing must work under conditions somewhat different than, for example, a teacher of algebra. A college graduate who studied algebra is usually able to teach the subject at least with a fair degree of success, but a person who has taken a course in drawing in a normal school or college is not usually capable of teaching a subject which is as technical as drawing and which lacks definite textbook material of the cut and dried order course in algebra. At present the successful teacher of drawing must be able, first, to draw and draw well; and second, to impart her knowledge and her training to pupils.

2 Teachers in the smaller places are compelled to teach from three to eight subjects in addition to drawing. Obviously the other subjects are considered more important. Probably they are, but if drawing is to be in the schools and is to have a creditable position in the course of study, it should be taught as thoroughly, as well and as successfully as the other subjects.

3 There is still a misunderstanding of the aim and purpose of the work in both free-hand and mechanical drawing. This is discussed more in detail later.

4 The present Syllabus for Secondary Schools does not meet the needs and demands of the average school in the towns and the cities of less than 20,000. Clearly it is difficult to develop a uniform syllabus, equally adapted to two types of schools: (*a*) a small union school where, for example, the teacher of drawing teaches French, English, one class in algebra and one grade subject; (*b*) the city high school that employs at a salary of $2400 a year, a specially trained teacher who devotes her entire time to the subject of drawing.

Practically the problem of securing better work in drawing lies in obtaining teachers who are more skilled in the teaching of the

subject, and unless the subject can be better taught in the smaller schools of the State, it would seem that its discontinuance from the school curriculum would be warranted.

Free-hand drawing and design, requiring as they very properly do a wide experience in the value of art, need the utmost concentration on the part of the teacher, and the addition of so many other irrelevant subjects is detrimental to the teaching of the special subject of drawing.

In the smaller places picture-making continues to be held up as the chief aim and purpose of drawing. The character of the Regents examinations in this subject has no doubt conspired to encourage this misconception. The State requirements necessarily call for much in the way of technical execution. Examiners must examine from two standpoints, (*a*) principle and (*b*) technic. Principles may be easily learned but their application is difficult and the excellence of the design, that is, the technical excellence, depends wholly upon the pupil's natural ability to draw. Consequently, fine technic can be expected only from the very few. On the other hand, principles of design and representation are within the grasp of every pupil and they may learn much in the way of refinement and good taste, but it is extremely difficult for any examination system to test the actual increase in the power of appreciation and taste which has come out of a course of drawing. It follows, therefore, that the examination which by its nature calls for excellence of technic, leads teachers to the conclusion that excellent drawing and fine "pictures" constitute the aim of the teaching.

Representation and design are, or should be, primarily cultural subjects and should therefore be studied with relation to their practical applications to the material needs of the home, the school and the shop. Young children undoubtedly can draw. It is natural for children to express themselves through the pencil and crayon. The drawings are crude, but they surely express a thought and tell the story. No one would for a moment ridicule a child's effort in this form of expression, but many adult and high school pupils can draw no better than the child, and yet such people are more capable of appreciating fine things in the way of pictures, of jewelry, of furniture, of textiles, of wall paper than children; but at present the Department has no way of testing this side of art instruction. It can only test the technical results of a wall paper or a textile design.

Mechanical drawing, however, is an exact science and therefore lends itself more readily to examination, but here again as in the

free-hand subject, the inexperience and lack of training of the teacher in the smaller places results in unsatisfactory work. Here, as in the other subjects, practical applications should be studied. The work in drawing should tie up more closely with the shop and professional school and this necessitates more accurate knowledge of trade and technical conditions. It should have either a distinct educational aspect, or a professional point of view. In one case it should be taught in conjunction with the shop, and in the other case it should be taught in conjunction with mathematics as a preparation for higher institutions. In a word, mechanical drawing and free-hand drawing should each function with life.

Drawing in our high schools should eventually become either purely cultural or purely vocational — both where the schools can accommodate the two lines of work. It should train for the average pupil in appreciation, and for the few it should train in skill. All people are consumers. Not all are producers. Nevertheless, without production there can be no consumption, and it lies with us as a state and a nation not only to train intelligent buyers, but also to educate skilled workers.

It would seem at present from the drawing situation in the State, that the schools were as a whole failing to train appreciation, and they are most certainly failing to produce artistic workers in those industries which require good design and good taste. Training consumers of artistic products will not result from giving instruction to those who are by nature gifted with ability to draw if the course of study in this subject is limited to rendering drawing from models or from memory, sketching from nature, and similar topics involving technical skill. Neither will dilettante work done by the great mass of our children without teaching them the principles of design and methods of good workmanship result in a body of industrial workers who are able to manufacture something besides cheap furniture, gaudy jewelry and other mediocre articles of consumption.

The shop or industrial side of drawing must be constantly kept in mind. While it is well for the many to reproduce various styles of lettering for covers, posters, announcements, and bookplates, it is necessary to industrial advancement that at least a few develop sufficient skill to earn a living through the designing of posters, the making up of advertising matter, the art of printing textile design and the hundred and one other occupations involving the use of art instruction. At the international congress for the promotion of art instruction held in Dresden in 1912, the major part

of the exhibit of foreign schools showed that art instruction had a close connection with lace-making, with copper and brass work, with furniture construction and with stone and iron work.

To sum up the situation and to make definite suggestions: First, the art courses in our public schools should develop (*a*) appreciation of the development of art itself on the part of all pupils of both sexes in order that they may be intelligent consumers; (*b*) vocational art or industrial art courses in our larger schools which would have the educational, disciplinary and practical value of other vocational courses; (*c*) the vocational and trade schools should strengthen their work in drawing and should relate the shopwork to courses in design in order that the products of the school may not only be sound in workmanship, but in thorough accord with the principles of good design.

Furthermore, the Department must consider apart from the two broad fields of appreciation on the one hand and skill on the other, the question of drawing as related to the environment in which the particular school is located. That is to say, the type of drawing for city schools is bound to be somewhat different from the type which is studied in the country school. The drawing for the girls is similar in both types of schools. For example, they need to consider the treatment of home interiors which furnishes a variety of problems in schemes of spacing and color for the surfaces of the room, for the furniture, and for the hanging and smaller useful articles. Homes in the country are not, or should not be, different from those in the cities. But the mechanical drawing for the boys will be different in the average country school from that given in a city school. In a city school the work in drawing usually leads into industries related to the machine trades, while the drawing in the country school would naturally touch such problems as barn framing, land measuring, farm machinery, and drainage.

Second, teachers of elementary and secondary drawing should not be expected to teach more than two other subjects in the schools that can not employ a specially trained teacher of drawing.

Third, credit should not be allowed for advanced drawing unless the work is taught by a trained specialist and unless the school has proper equipment and drawing facilities. This will not work special hardship to the school, for elementary drawing may still be given in all the elementary grades and simple drawing to the pupils in the high school. There is little use in the small school attempting to imitate the large city high school in lines of work

which it can not successfully do when there is so much that it can do. When agriculture and homemaking training become general in these smaller high schools, it will be possible for the teacher of agriculture to teach the boys a line of mechanical drawing related to the agricultural projects and for the teacher of homemaking to give some instruction in home and personal decoration.

Fourth, an adequate normal department should be organized and operated in the State Normal College for the training of teachers for secondary schools. The training of teachers for elementary schools is provided for in Fredonia and Potsdam Normal Schools; but as far as the State Education Department is concerned, the only place that the high school authorities of the State can look for a teacher of drawing is to the State Normal College, which lacks an adequate normal art department.

STATISTICAL INFORMATION

Number of academic schools giving drawing	Practically all
Number of elementary schools giving drawing	Estimated at three-fourths of total
Number of hours possible in drawing in high school	I 5 II 5 III 4 IV 6
Average number of minutes given to drawing in elementary schools	Sixty minutes a week
Per cent of trained teachers in cities	90
Per cent of trained teachers in villages over 5000	33⅓
Per cent of trained teachers in villages under 5000	10
Per cent of credits possible in academic drawing	20
Number of visits of specialist during the year	150
Number of conferences of drawing teachers	18

GENERAL INDUSTRIAL AND TRADE SCHOOLS

The various types of courses or schools meeting the need for industrial training now in existence in the State may be classified

into four groups: (1) the intermediate industrial school; (2) the trade school; (3) the vocational school course in the high school and the vocational or technical high schools; (4) the continuation or part-time school or evening school.

The intermediate school has developed to the point that one may speak with some assurance of the general trend of the work. More of this type of industrial school have been established than any other. No two of these schools are alike and absolute uniformity is not expected or desired. The differing industrial needs and the varying school conditions preclude the possibility of there ever being anything like the uniformity of organization which prevails in the elementary and secondary schools. If unity of aim and ideals exist, the Department should be satisfied. The majority of the pupils are fourteen years of age or more. This is in accordance with that section of the Education Law dealing with "General industrial schools." These schools succeed in holding pupils in school after they have passed the age limit for compulsory attendance. They can not appeal to the vocational motive of pupils *before* they are old enough to leave school and arouse in them an appreciation of the value of further school training after fourteen unless these pupils are given industrial training before they reach that age. The Department has required that the majority of the pupils in this type of school complete the sixth grade before enrolling and that at least twenty-five pupils of the school be fourteen years of age. In this way the Department has met the intention of the law and at the same time has helped materially in retaining pupils in school at the point where the greatest and most serious elimination now occurs by arousing in them some interest in vocational activities before they are fourteen.

While it is impractical for the Department to prescribe what industrial work shall be carried on in each section, there are certain very clear restrictions to be pointed out in the method of development. Obviously it is not wise for one community to copy exactly a school of another city. Too often this is attempted at the expense of local needs and opportunities. A survey of local industries should be made, opinions of employers and workers sought and studies prepared which show the elimination of pupils by grades. Furthermore when more schools are started in the same community, there should not be a duplication of work in the different centers.

Woodworking, for instance, has proved very popular wherever introduced, the demand for it on the part of schoolmen being greater in most cases than the capacity of the particular trade to absorb the graduates. The opening of a second shop offering work of the same character involves a duplication of equipment, the funds for which might better be used to introduce some equally useful trade.

It is a pleasure to report that the intermediate industrial schools are offering courses in printing, plumbing, electricity, sheet metal work, pipe fitting, as well as that old standby — woodworking. These schools will never approach any degree of perfection if they rely only upon proficiency with woodworking tools. The latter work may be valuable as far as it goes, but the woodworking trades now include no more than a tenth of the more desirable openings. A boy that fails to do good woodwork may yet have in him the making of a printer, electrician, plumber or draftsman. Industry is now so varied that success or failure in any one line offers little evidence regarding one's probable success in others. Accuracy, neatness, order, initiative, skill and manual intelligence can be developed by the means of other tools and materials than are now used in the ordinary manual training work.

It is absolutely necessary that these schools break away from the ordinary methods of manual training. They must not be dominated by the atmosphere of the classroom. They need the atmosphere of the shop. The first has been predetermined by the schoolmen of the past and is a matter of tradition. The second must have for its course the conditions which prevail in the most modern of our great industries. This involves throwing a greater degree of responsibility on the individual pupil than is expected in the schoolroom.

The methods employed in these school shops are worthy of considerable study, representing as they do the standards of our large industries. The time clock now takes the place of the roll book and the boys soon learn that the mechanical register of time is more accurate than the human, and the lesson of promptness is taught without argument. In some schools the boy whose work in the shop is of the highest character acts as foreman for a week with the understanding that he is to see that materials are properly distributed, the estimated amount of work is accomplished and

that it is of the required standard. Another boy acts as assistant foreman with the care of the benches and tools in his control and is also responsible for the cleanliness of the shop. The added incentive which results from the desire to be appointed to a position of control in the shop contributes greatly to the hearty cooperation between pupil and teacher. Time, stock, and cost cards are being introduced. In this manner the school is laying special emphasis upon the need of system and economy. The boy sees the necessity for rapid and at the same time effective methods of doing a piece of work. He sees that economy of material is just as important as economy of time. The boy learns he is dealing with dollars and cents, actual problems that involve materials and time and he realizes he is doing "real work." In the classroom he learns about the cost of equipment, materials, power, overhead expense and burden.

It must be kept clearly in mind that the boy is the primary consideration in the intermediate industrial school. The work done in the shops must have an educational value and it must be clearly understood that it is not the aim to turn out a great deal of product, but to give the boy the variety of experience that he will need in his actual work later in life.

Intermediate industrial schools are doing excellent practical work. The cabinetmaking shop is making desks, chairs, kindergarten tables, sand tables, costumers, bookcases, drawing tables, drawing boards, sewing tables, cutting tables, typewriter tables, lunch room tables, dining room furniture for vocational centers, manual training benches, supply cupboards, picture frames, looms, elementary drawing kits, sewing boxes, music cabinets, bulletin boards, and laboratory apparatus. The carpentry department finds abundance of work in the average repair work of the school buildings. This includes the repairing of porches, building partitions, building storm houses, rehanging doors, replacing window cords, laying floors, building large supply closets, remodeling buildings and the decorating of schoolrooms. The electrical departments do considerable work in the installing of motors, lanterns, repairing of bell and lighting circuits, wiring schoolrooms, operating lanterns and general repair work. Shopwork of this character as over against the more or less dilettante and abstract work of the usual manual training course gives a definite vocational

trend to the industrial courses and presents added stimulus to work on the part of pupils.

A forward step has been taken in the vocational work for girls. Its practical work has taken a cue from the methods employed in the schools for boys. The girls are taking orders for hats, dresses and cooked foods. They are repairing garments and making over last-year hats. The girls of several schools not only cook lunches for themselves but sell lunches to other pupils, to their teachers, and in one case, furnish a lunch for girls in a neighboring factory employing women.

A merely intensified form of manual training, sewing, millinery or any other shop activity will not serve the purposes of the pupils nor of the industrial world. For the purposes of conventional culture the usual type of manual or household art training serves fairly well; but it must not be forgotten that a vocational school is primarily for the purpose of enabling pupils to select and acquire a vocation. If pupils are allowed to dawdle and play with industrial elements they will gain false ideas of industry that will justify the criticism so often made that the schools fail to teach economy of time and effort. True, no school can give the powerful incentive to good industrial work that is forced on the business world by economic stress, but some knowledge of the value of time and well-directed energy should be one of the important aims of the vocational school. A dilettante system of handwork with culture as its only aim will defeat the purpose of this school; but if the elementary processes of industry are shown in their relations to mathematics, language, history and science, pupils will feel a joy in work that comes from strength and skill and breadth of knowledge.

The bookwork in these schools is improving but there is still much to be done. Vocational training has the great advantage of presenting points of contact between the studies and occupations in the school and the life of the community. By using these the mathematics and elementary science on the one hand and the geography and history on the other, can be lifted out of mere textbook studies and become interpretations of the activities and social life of the community. The present difficulty lies in the fact that there are few teachers who know how to relate the bookwork to the shopwork or activity work of the school or

community. They have been accustomed to impart information from books without appreciating the relation of the book facts to the life and occupation of the community. The problem of securing teachers who can successfully correlate is not easy. Teachers for the bookwork are selected from the regular teaching force and are remolded to fit industrial school needs. In brief, the bookwork teacher is a recast product of past normal training. The shop teacher, being already a practical mechanic, requires no recasting of teaching methods. He has none with which to start. The problem is to mold him into a good teacher of shopwork.

The trade school idea has taken definite work for several reasons. (*a*) The idea is not so objectionable as formerly. (*b*) Pupils who graduate from the intermediate school may not care to enter the vocational course in a high school as candidates for an academic diploma, and a trade school is necessary if these graduates still wish to continue in the public school system. (*c*) Some intermediate schools have developed into trade schools and have left to an intensified form of manual training the question of discovering the industrial capacities of the youth.

These schools, while a part of the public school system, are absolutely cut off from the Regents in so far as examinations, certificates, diplomas and credits are concerned. In every instance the pupils are attending from six to eight hours a day instead of the usual five hours of the regular schools. In several instances these schools are open eleven months a year.

Special effort is made to introduce industrial methods and standards in the shopwork. Such methods include (*a*) the making of jigs to facilitate manufacture and to secure uniformity in the product; (*b*) division of labor to increase the skill and speed of the individual and the efficiency of the working force; (*c*) the appointing of pupils as group foremen and room foremen to develop leadership and organizing ability; (*d*) the use of the cost and time cards and the assigning of a wage rate for pupils' work; and (*e*) the use of a checking system to fix responsibility for poor work.

Everything which is made is on the basis of a "shop project." As the term is used here, it is something to be done in the school shop which involves a limited and definite amount of equipment, materials and time, and which is directed toward the completion

of a specific and valuable result. For example: the boy is assigned to make a table for the school or for sale. He goes to his shop foreman and gets his order for the work; writes up his understanding of it for criticism and change; makes his drawing and blue print for the job, submitting it for approval; draws his specifications for the work; and follows them in the construction of the work. He calculates dimension, stock and cost thereof; submits orders therefor for approval; calculates probable time necessary for job and the labor cost; gets material and tools from stock; and carries out the job under inspection and approval. He keeps a time card for the job; returns unused material and tools; determines cost of work in material and time and the commercial value of the table; and checks results against his estimate, seeking to determine the differences between his estimate and his actual results.

A project in dressmaking: the pupil receives from the instructor an order to make a shirtwaist, together with a description of the kind of waist, the quality of goods and the measurements for the same. She looks up waists in fashion books containing the desired pattern and gets practice in the use of English by writing out her plan for the work. She makes a design of the shirtwaist and presents it for acceptance by the instructor; she estimates the quality of material of every kind required in the construction of the waist and its probable cost; she makes the waist according to the designs and plan which she had submitted under supervision. By the time card she keeps a record of the time consumed in the work; finds out what the work has cost and what to charge; and checks her results against her estimate.

The success of the "vocational school" courses in existing high schools and the technical high schools is still an open question. These schools or courses offer an academic diploma to those who complete a four-year course. They are intended to give definite technical instruction to pupils who wish to enter the industries immediately upon graduation. Such efforts are, of course, commendable. There is, however, considerable debate at present as to whether courses so organized can, under present conditions, meet the need for specialized technical training on the secondary level as fully as that need ought to be met; whether both the academic and the shop instruction can be adapted to

industrial needs as closely and completely under such a plan as under a more isolated form of organization. It is largely a question of the extent to which college entrance requirements and traditional academic standards may interfere with the complete development of the specialized technical course on its own merits, especially in its present experimental stage.

It is fortunate that the Education Law relating to vocational training provides for separate and independent organization with a staff of teachers specially fitted for, and giving their attention exclusively to, this work. This is necessary in order to give these schools the distinctive aim and purpose which they should have, and it is of very great importance in the present experimental stage of vocational training, when a content and a method for these courses are still to be developed. Not all teachers have the special training and ability needed for this pioneer work; not all are yet in full sympathy with vocational training. It is of the utmost importance that vocational courses should preserve their integrity, that they should be really vocational if they pretend to be. The independent organizations, established in certain communities of the State, and having a select staff of teachers, are rendering valuable service in working out a content and method for similar courses to be established later in other schools in other parts of the State.

In a consideration of continuation schools, the development of evening trade schools naturally takes precedence. There has been a gratifying advance in the larger cities in the numbers attending these schools. Buffalo has 795 pupils enrolled in its evening technical school; Yonkers has 1026; New York City has 6506. In New York City, the enrolment has increased 46 per cent over the preceding year.

Among the subjects taught in these schools may be mentioned carpentry and joinery, cabinetmaking, pattern-making, blacksmithing, plumbing, machine shopwork, printing and typesetting, mathematics, free-hand, architectural and mechanical drawing, machine design, applied electricity, electrical engineering, steam engineering, electric wiring and installation, industrial chemistry, applied physics, advanced dressmaking, millinery and domestic science.

One significant change in New York City which might well be imitated in other cities, is the offering of shorter courses in trade

subjects. Evening school principals have prepared schedules showing at what time in the school year certain processes in each trade are to be studied. This will enable pupils to perfect themselves in that branch of their trade in which they are deficient without being obliged to take the whole course. Flexibility of courses and admission make evening schools doubly valuable to workingmen.

Looking at the question of evening trade schools from a State standpoint it would seem that many cities of moderate size were far behind in the development of such schools. Whenever there is a demand for any kind of skilled labor that will lift the worker from the ranks of the less skilled or unskilled, and that will restore the equilibrium between the insufficient supply of labor that is well paid and the overcrowded supply of labor that is underpaid, such a demand should be met by opportunity for instruction. It would appear that cities like Cohoes, Troy, Elmira, Oswego, Binghamton, Auburn and others which have a large number of unskilled workers might well establish evening schools for definite trade instruction. Comparatively little is done in this direction. These cities are merely continuing the old line of evening school work which consists of compelling illiterate foreigners and employed youth between fourteen and sixteen to attend for instruction in the elementary branches. In passing it should be said that there is much to be done in improving the conditions of instruction for compulsory attendance in evening schools. At present the evening schools in most of the cities of the third class are merely compulsory — compulsory for the pupils, compulsory for the city. There is little initiative shown by either party. Relatively speaking, they are a failure. They fail to enforce the compulsory attendance law; they fail to interest the pupils.

To improve the conditions there should be appointment of the best teachers from the regular corps. School activities of all kinds that may attract these pupils should be freely offered. These would include physical exercise of from 15 to 20 minutes an evening, which should be as informal as possible, as basketball and other athletic games; the use of a school library, the shop, etc.; the use of the stereopticon for instruction and general information. An attempt should be made to secure the cooperation of industrial employers to take an active personal interest in the welfare

of employed boys and girls. When there are sufficient pupils a vocational bureau could be established. There should be a change in the course of study. The course should offer the formal studies, but should depart from the regular day school in that the amount to be taught should be reduced and the principle of selection and reduction should be a utilitarian one. What would be taught would be very definitely stated; the procedure would be thorough, though the course would be very modest in its pretensions. Teaching for the factory boys would be largely individual, as the subject matter would be modified in application to the boy's own trade. The boys would be encouraged to suggest as material for instruction their own experiences as they observed them in the trade.

A previous report emphasized the importance of day continuation schools. Such a system would do much to obviate the present difficulties in attempting to enforce compulsory attendance in evening schools. So long as the law exists relating to evening schools, every effort must be made to reduce it to a working condition so that it may prove beneficial to those who do attend such schools. The day continuation classes would be an ideal solution if the attendance therein were made compulsory; but such classes would never become general unless required by State legislation. This opinion is confirmed by conference with a number of gentlemen who are heads of trade and industrial schools; they have interviewed some of the largest and most enlightened employers in the various trades; these employers stated that they would not object to such a law, but doubted strongly that the small employer could afford to pay a boy who would be absent at school during the day; nor could they see their way clear to send their own youthful employees during business hours unless their competitors did likewise.

Any day continuation school which is established under present public sentiment as written in the Education Law must depend upon the best public spirit of industrial employers. Buffalo has a part-time continuation class in connection with its school of printing. This is the initial move in this field in this State. Most of the employing printers of the city are cooperating with the local school authorities in furthering the movement. On Thursday afternoons they send their apprentices to the school for instruction between the hours of 1 and 5.30.

In concluding these statements with reference to industrial training, three points not mentioned in other reports should be emphasized: (1) the school authorities must be thoroughly conversant with the industrial needs of their communities; (2) they must know the opportunities which exist for successful advancement in the various occupations of the community; (3) they must keep in touch with the graduates of their schools. The first point can be covered by making a careful survey of their field. The second can be brought about by establishing vocational bureaus which study vocational opportunities. The third can be done only by personal work on the part of school teachers. The school should not leave its pupils to shift for themselves after garduation. It is the plain duty of the teacher to see that every girl and boy that have faithfully completed all requirements for entrance upon trade work be secured a position in his or her chosen field. Competition between industrial workers is so keen today that unless some aid be given, the new situation will prove a difficult one for the youthful. In one city in the State the chamber of commerce was induced to assist in the placement of graduates of the intermediate industrial school. In nearly all places the local advisory board will prove a valuable aid as in every case this board has members who are vitally interested in the trades. The relationship between the industrial school and its graduates should be almost paternal in its nature. It is not enough merely to see that former pupils have been safely launched in the world's work. The school should keep a record of their career. This will serve a twofold purpose, making it possible to give more aid to the boys and girls after they have gone to work, and furnishing the school with a safe basis for determining what are the actual results of its training. For instance, if many of the graduates fail because of certain defects, either lack of intellectual training or technical skill, the opportunity is given — once these facts are known — to improve the curriculum along the lines in which it is weak. Pupils must be trained to meet actual everyday conditions. One will never be sure whether efforts to benefit them have been of actual value unless some sort of a life study department is connected with the school.

Furthermore, the school should obtain the opinion of superintendents and foremen concerning the weaknesses of the workers who come from the school. All these facts can be readily tabulated on regular cards which are used to keep the pupils' school records.

Summary of vocational schools

CITY OR VILLAGE	Number of schools	Men teachers	Women teachers	Boys enrolled	Girls enrolled	Day pupils using equipment but not enrolled in vocational school	Evening pupils[1]
Albany	2	4	7	93	100	1	.....
Buffalo	6	23	6	538	120	.....	.....
Corning, N. S.	1	1	1	18	36	42	.....
Elmira	1	2	1	60	....	.....	25
Fayetteville	1	....	1	....	28	38	.....
Freeville	1	2	5	51	46	36	.....
Gloversville	1	....	1	55	23	.....	25
Herkimer	1	....	1	....	26	111	.....
Hudson	1	1	3	38	42	.....	.....
Hudson Falls	1	1	1	116	186	.....	.....
Jamestown	1	1	....	25	....	112	158
Lancaster	1	1	1	48	63	59	.....
Lansingburg	1	1	1	19	76	40	50
Mount Vernon	1	3	3	24	47	46	112
New York City School No. 100	1	22	....	630	....	.....	779
New York City Trade School for Girls	1	1	48	....	447	.....	.....
North Tarrytown	1	1	2	17	13	200	.....
Owego	1	1	1	33	22	13	.....
Rochester	5	16	14	223	170	87	241
Schenectady	3	2	4	100	40	24	.....
Utica	1	2	3	41	34	.....	.....
Waverly	1	1	1	47	18	177	.....
Yonkers	3	12	5	163	71	929	1 136
Total	37	98	110	2 339	1 608	1 915	2 526

[1] Includes only those schools operating under article 22 of the Education Law. Does not include pupils studying in evening trade schools in Buffalo, Syracuse, Rochester, New York City, etc.

Some of the shop subjects taught boys are: architectural drawing, design drawing, mechanical drawing, joinery, woodturning, cabinetmaking, patternmaking, molding, electrical construction, machine shop practice, printing, blacksmithing, sheet metal work, pipe fitting, plumbing, bookbinding, power plant operation, gas engine construction, glovemaking.

Some of the shop subjects taught girls are: millinery, dressmaking, cooking, laundry work, household physics, household chemistry, household decoration, glovemaking, home nursing, personal hygiene, sanitation.

Bookwork subjects taught boys and girls are: English, history, business accounts, shop mathematics, geography.

SCHOOLS OF AGRICULTURE, MECHANIC ARTS, AND HOME-MAKING

For one hundred fifty years agriculture has been regarded as a proper subject for school study and a quarter of a century has passed since the first successful high school of agriculture was opened in this country. Not until this decade, however, has the problem of secondary school agriculture had anything like universal consideration. At the present time schools of agriculture and courses in agriculture as well as laws relating to the establishment of the same in the various states are so numerous, diverse and metamorphic that it is difficult to follow the development. It is a fact worthy of note that with this variety of plans there are certain points common to the most successful systems, among which are:

1 The schools are so located that pupils may receive instruction from specially trained teachers and live at home.

2 The conditions for the establishment of the schools are such that local investment is necessary in order to secure State aid.

3 The administration is centralized.

That the principles underlying the above conditions are of importance in the organization of the individual school is shown by the fact that the activities of many successful schools are based upon one or more of these principles.

In the State of New York there are in successful operation twenty-seven schools of agriculture, mechanic arts and home-making organized in accordance with and maintained under the provisions of article 22 of the Education Law. Eleven of these schools are taking up this work for the first time this fall. The remaining sixteen are fortified with the experiences of a year. Of the following ideas, many are suggested by the activities of one or more of these schools. Some express work accomplished or in the process of accomplishment, and other desirable plans for the future.

The best school of agriculture is closely identified with the community and its affairs. The degree of success seems to depend in a large part upon how much the school gets from the community and how much it gives in return. Such a school stands for progress and efficiency and through its officers and teachers takes the initiative in movements toward community welfare. Each farm home organization and society seems to be

rich in opportunity for the school seeking it. Each boy and girl comes to school with an almost inexhaustible store of experience. The wise teacher takes advantage of such conditions. He connects his school with as many of the neighborhood centers as possible; he leads his pupils to interpret their experiences in the light of biological and physical laws; he encourages the development of the sense of social interdependence. This procedure does not always result in a temporary knowledge of the number of swimmeretts on a crayfish, or the laws of falling bodies in terms of $S = \frac{1}{2} gt^2$, but it does formulate a groundwork of science in terms of experience. This fundamental science is necessary as a basis for later instruction along the special lines of agriculture and homemaking. It is evident that local and individual work of this kind can not be outlined in a general syllabus nor can its results be tested by a uniform examination. On the other hand, experience has shown that some standard is necessary. In view of these facts, the Department encourages the development of local activities and local syllabuses under the close direction and supervision of the Division of Vocational Schools.

Every farming community has a wealth of equipment desirable for a school of agriculture. Reports from schools now in operation indicate that the owners are almost without exception glad to assist the school in the use of this material. One teacher reports that men who are unwilling to cooperate are usually the ones without much worth seeing or using. Several of the schools have arranged a definite program of lectures and demonstrations by men either resident in the community or carrying on business there.

The following program arranged by the Hannibal school is a typical one:

Lectures 1912–13

Milton Terpening	Potato Growing
R. Cooper	Potato Growing
W. J. Bradt	Making New Meadows
Hubert Rogers	Dairy Testing
Rev. F. W. Dunning, Rev. B. A. Matzen } Local Clergymen	Geology of Hannibal
Ernest Lonis	Cooperation
Mrs E. W. Rice	Farm Management
Raymond Cooper	Saving Strength
Dr Lattin	When Cows Pay
	Picking and Packing Fruit

	Field demonstration
F. E. Rogers (Oswego county food expert)	Grading Fruit
	Field demonstration
F. S. Welsh (N. Y. C. farm agent)	Drainage
	Field demonstration
C. F. Bley (Tree expert)	Pruning Old Orchards
	Field demonstration
C. F. Bley	Shaping Young Fruit Trees
	Field demonstration
Raymond Cooper	A Sanitary Stable
	Field demonstration
G. W. Rogers	Scoring Pure Bred Cows
Hubert Rogers	Dairy Records; What Individual Cows Pay
Mrs Jasper Hopper	The Farm Home
Clinton Tucker	The Cheese and Butter Industry
	Field demonstration
C. S. Lockwood	The Farmer and the Community
C. W. Haws	The Cost of Growing Four Acres of Potatoes
M. H. Minar (Local druggist)	Chemistry of Soils

A boy from this school won first prize at the State Fair for box packing apples. The school has this year an exhibit at the Oswego County Fruit Growers Association.

These local schools are for farm boys. The art of farming is learned at home and the science of farming is learned in school. The art and the science should not be divorced; hence provision is made for "home project" work carried on at home under the direction of the teacher of agriculture. One of the best of these home projects is being carried on by a boy fifteen years old. He studied poultry husbandry last year and chose for his problem to determine the cost and net income of a small flock of hens for one year. He set seventy-five white leghorn eggs under five hens, May 1, 1912. The following were some of the articles constructed by this boy from plans and specifications drawn by him: coops and yards for young chickens, feed hoppers, roosts, nests, water fountain, house and yard for winter. A suitable system of bookkeeping was devised and account is kept of all income and expenditures, including estimates not purchased. The young roosters are sold for broilers and the pullets kept through the winter. Each pullet is numbered and is to be trap nested for eggs. A weekly report is made to the teacher of agriculture and the whole project is to be summed up by the boy in a thesis to be written next spring.

If this most vital part of the work is to be effective, these schools should be in operation during the summer. This does not necessarily mean that the activities need always be carried on within the building especially constructed for formal instruction any more than the building need always be used for formal instruction. At all times one or more of the teachers should be in the community. As many as possible of the pupils should be carrying on work all the time, in school, at home or elsewhere.

During the past year the teacher of agriculture at Walton was employed for twelve months. A number of movements have been started which have created a wide community interest. One which met with special favor was the organization of corn and potato-growing contests. Twenty-five boys and girls of the town were enrolled in these contests. The members were visited during the summer by the teacher of agriculture. One public-spirited citizen contributed a suit of clothes as first prize in the corn-growing contest and another contributed a phonograph as first prize in the potato-growing contest. These prizes were awarded at the Corn and Potato Congress held in October in the high school auditorium.

An experimental plot of between two and three acres was loaned to the school by the Fair Association. Part of this land has been set aside for school gardens for the lower grades. Suitable prizes, donated by local merchants, were awarded to the owners of the best gardens. The remainder of the land was used for plot tests with corn, potatoes and alfalfa. Cornell seed corn was planted and the results compared with those obtained from planting some native seed corn furnished by a local grower. The three plots of alfalfa attracted much attention during the week of the county fair. Local farmers are much interested in this work. Men in the community contributed the fertilizer, teams and implements necessary to carry on these experiments. The Fair Association also offered thirty dollars in prizes in a plowing contest held during the fair. A farmers' club is also in active operation and holds weekly meetings during the winter.

Other schools are carrying on similar activities and present conditions indicate that the real success of the school of agriculture is in proportion as this community work is taken up.

The Division of Vocational Schools has, in a previous report, pointed out the necessity of and opportunity for the establishment

of a system of continuation schools which would provide for the boys and girls who are employed at least part of the time. The schools of agriculture are already, in many places, filling this need along the lines of agriculture. A large number (mostly boys) of those enrolled in the work in agriculture attend from three to six months of the year. Some of these study only the vocational subjects; other enter the full curriculum. Even more effort should be made to meet the needs of these pupils. They are usually after education rather than counts or diplomas.

The school can not be the best expression of the community unless provision is made for the girls as well as for the boys. Already six of the schools of agriculture have made definite provision by the employment of a teacher of domestic science. Present conditions indicate that the smaller schools will have two vocational teachers: a teacher of agriculture and a teacher of homemaking. If the teacher of homemaking is also qualified to teach some of the special subjects of agriculture as fruit growing, poultry husbandry and dairying, there could be provision made for four years of vocational work for both boys and girls.

It is well known that the thing most cherished is that which comes with conscious effort. People take pride in an institution which is an expression, in part at least, of their own work. With community equipment, community lecturers, and community assistance in the school there is an opportunity for the correction of one of our great economic wastes. From the standpoint of economy, it is time that the various state and federal supported endeavors in the field of agriculture should organize for conservation and concentration of effort. In practically every separate line of activity the leaders have found: (1) Local and individual work is most effective; (2) at least one person who knows the community conditions and needs must act as agent; (3) this person should be especially trained in agricultural work; (4) community investment is desirable.

Farm bureaus, farm agents and specialists could best work through and in cooperation with a community school of agriculture. Whenever possible these schools should cooperate in and carry on this work. The teacher or teachers of agriculture might well be the local representatives of all agricultural activities of the community.

Only five-twelfths of the work of a pupil in a school of agriculture is along distinctly vocational lines. There is strong reason to

believe that the other seven-twelfths should be considered more from the standpoint of the environment of the pupil and his future plans than is at present the case. Just what modification should be made is not entirely settled. There is need of trial. One or two middle or senior schools should be induced to center all the school activities around the work in agriculture. These schools should be cut loose from all tradition and allowed to develop as pure community schools. There is little doubt but that an experiment of this kind would lead to a similar procedure in many districts in the State. Three teachers might well specialize in these schools, one to teach boys, one to teach girls and one to teach both boys and girls.

High schools teaching vocational agriculture

SCHOOL	Men teachers	Women teachers	Boys enrolled	Girls enrolled	Number who will enrol after farm work is done	Pupils in seventh and eighth grade agriculture	Day pupils using equipment but not enrolled in the vocational course
Albion	1	....	17	....	10	40	.....
Atlanta	1	....	15	7	8	....	11
Belleville	1	....	21	....	10	....	3
Belmont	1	1	16	24	10	7	100
Brushton	1	....	26	9	....	14	.....
Gowanda	1	1	18	18	....	25	3
Greigsville	1	....	2	1	7	23	13
Hancock	1	....	14	9	10	9	.....
Hannibal	2	1	18	30	8	25	60
Highland	1	1	15	13	6	....	15
Interlaken	1	....	25	1	3	9	11
Jordan	1	....	22	5	4	13	6
LeRoy	1	....	14	....	14	25	13
Little Valley	1	....	25	....	1	....	.....
Lowville	1	....	10	24	4	....	150
Mexico	1	....	24	2	8	20	5
Millbrook	1	1	12	32	....	11	.....
Moravia	1	....	10	2	15	....	11
Newark Valley	1	....	22	8	5	....	.....
Penn Yan	1	1	15	18	....	....	18
Perry	1	....	10	8	7	....	9
Prattsburg	1	....	19	....	8	16	19
Red Creek	1	....	21	23	50	....	.....
Sinclairville	1	1	23	12	10	....	6
Stamford	1	....	27	....	....	....	.....
Walton	1	....	23	....	....	11	6
Worcester	1	....	26	....	8	12	40
Total	28	7	490	246	209	260	499

Seventeen other high schools are teaching agriculture to 268 pupils, without expecting special State aid. These are given below:

New York State high schools having a course in academic agriculture

SCHOOL	Number of pupils	Remarks
Angola	.....	Only half-year course, January to June. Will probably have about 30 pupils
Batavia	25	
Cambridge	18	Dairying course
Canajoharie	11	
Delhi	25	
Dexter	14	Last year cereals and forage crops and potato growing. This year, cereals and forage crops and poultry raising
Dundee	16	
Falconer	7	
Gardenville	40	
Gilbertsville	7	Two half-year courses — animal husbandry and cereals and forage crops
Greenwich	24	
Hammondsport	8	Potato growing and general fruit growing
Liberty	17	
Minoa	12	
Palenville	9	Pupils take more interest in agriculture than any other. It inculcates a desire to study their own home and surroundings
Pulaski	12	
Schoharie	23	First half-year agriculture 3. Second half-year agriculture 7

VOCATIONAL TRAINING OF WOMEN

The breaking of London shop windows by women calls for big headlines in newspapers, but their breaking into our great productive industries, organizing into trade union leagues and the demanding of equal pay, receives less attention; but to the latter facts there is deeper significance. There is something in the air with relation to women's work and women's economic, political and social status. It is no sudden development. Woman is neither a slave nor a doll of the former days. No longer is she the woman who spends, but rather the woman who produces.

The history of women in the United States is the story of the great industrial readjustment which has not only carried woman's

work from the home to the factory, but has changed its economic character from unpaid production for home consumption to gainful employment in the manufacture of articles for sale. Their work has been removed from the home to the factory and workshop. Their range of possible employment has been increased and at the same time their monopoly of their traditional occupations has been destroyed. The individuality of their work, like that of men, has been lost in the standardized factory product. Similarly, as in the case of the history of man's work, the history of woman's work in this country shows that education and legislation have been the only forces which have improved the working conditions of any large number of woman wage-earners. Proportionately less, however, has been done for woman than for man and the former for a longer period of time has worked under conditions which have involved not only great hardships to herself but shocking waste to the community.

Assuming that woman has settled upon her "rights" and that she is prepared in her mind to enter the field of the world's work, it is necessary to think of her preparation for this work. The same human forces which are asserting her rights to vote, to work, to hold property, and to have equal pay must attack the problem of woman's education. If she is to work in the foundry, the machine shop, the electrical department, the textile mill, the printing office, the field, the office and the store, then she must be prepared for the work just as man is to be prepared for it. If human society can come to the conclusion that the foundry shop, the sweat shop, the file-cutting shop and the grinding shops are not suitable places for women, then human society must so improve the industrial and economic conditions of such work that woman can work in it.

In general it may be said that provisions for training in industrial occupations are not yet so fully developed for girls as for boys. Among the many reasons for this at least one stands out prominently, namely, many hardly realize, not even women themselves, the decrease in the amount of unremunerated home labor and the increase in the importance of wage labor together with the comparatively large amount of shifting of occupations from one sex to the other. Under the old domestic system, the work of the woman was to spin, to weave, to sew, to knit; in general to make most of the clothing worn by the family; to cook, to brew and to clean. But machines have now come in to aid in all these industries. In their train have followed men operatives. Not only has the

productive power of the individual been greatly increased, but many Priscillas have left their spinning wheels to hunt for other work. Men tailors make every year thousands of women's suits, men make our bread, brew our ale, and do much of the work of the steam laundry, and men are now cleaning our houses by the vacuum process. The following statistics give some idea of the change of occupations of women employed in gainful pursuits: the proportion of all the gainfully employed women engaged in "agricultural pursuits" decreased from 21.6 per cent in 1870 to 18.4 per cent in 1900, and the proportion engaged in "domestic and personal service" decreased from 58.1 per cent in 1870, to 44.6 per cent in 1880, to 39.4 per cent in 1900. At the same time the proportion engaged in "professional service" increased from 6.7 per cent in 1880 to 8.1 per cent in 1900, the proportion engaged in "manufacturing and mechanical pursuits" increased from 19.3 per cent in 1870 to 24.7 per cent in 1900, and the proportion engaged in "trade and transportation" increased from 1 per cent in 1870 to 9.4 per cent in 1900. It is evident that the importance of domestic and personal service has greatly decreased, while the importance of manufacturing and mechanical pursuits, trade and transportation and professional service has increased.

Some educators still have an idea that training for girls should prepare only for homemaking, ignoring the fact that many must and do work for a number of years outside the home. Training in homemaking must nevertheless be included in vocational education for girls as well as training for a trade or occupation and this twofold phase of the problem introduces complications. Training for efficient service in the home and training for efficient service in the factory and store must go hand in hand.

Boys have little opportunity for training in apprenticeship systems under modern industrial conditions, but apprenticeship for girls has never meant any thorough training. In the early colonial days apprenticeship for the girl meant simply a hiring out at domestic service until of age. Up to the present, apprenticeship in manufacturing industries has usually meant to girls merely work and not industrial training.

In former days to teach girls to spin, to weave, to sew and to cook was to prepare them for the great advent in their lives — marriage, keeping of the home and the care of children. Gradually, however, as girls have been forced on the one hand by machinery which has taken away their home work, and on the other hand by division of labor which has drawn them into all manner of apparently

strange occupations; to undertake tasks which have no direct interests or direct bearing to them as prospective wives and mothers, there has grown up a condition which can be solved only through education, and vocational education at that.

The problem of deciding what vocations shall be taught to girls is a difficult one. In a field of education as comparatively new as vocational education for girls, it is highly important that we be extremely careful in deciding upon the trades which shall be taught. We must ascertain which industries employ large numbers of women; which industries require skilled workers; which offer the opportunity of a steady rise to better positions; which do not adequately provide the necessary training themselves; which pay good wages for reasonable hours of work; which are conducted under proper physical, sanitary and moral conditions; which provide work the year around; and in case of seasonal trades, what opportunities exist for the worker to use the dull season in one trade for work in another trade.

While this report is obviously concerned with vocational training for industrial pursuits it might be well at this place to point out that there are many agencies at work training women into what may be termed the higher vocations. A few years ago teaching was about the only so-called higher vocation into which they might enter. Now we have the fields of social service, of scientific work, of business, of secretarial work, of literary work and of art, in addition to the professions of law and medicine. For the past decade there has been earnest and progressive propaganda by collegiate alumni associations to turn college women into work other than teaching. It should be the aim of public schools to do what they may to redirect young girls from the unskilled into the skilled trades; from vocations in which they are at present exploited into vocations where they may make the most of themselves. Already this Department is encouraging the high schools of this State to enrol girls in their agricultural courses. This is a step in the right direction. There seem to be no inherent reasons why women should not occupy positions of responsibility and trust in connection with almost every line of agriculture. There are numerous instances in which a farmer's success has depended more on the business ability, knowledge, energy and tact of his wife than on his own attainments. In certain specialties the opportunities for women in farming are as great as for men. It would seem preeminently fitting for women to become managers of poultry raising, bee-keeping and flower-

growing establishments, and in but slightly less degree, of vegetable gardening and fruit-growing enterprises.

In this connection it is interesting to note the number of women farmers and landlords in Tompkins county. The New York State College of Agriculture in making an agricultural survey visited practically every farm in the towns of Ithaca, Dryden, Danby and Lansing. Of 957 farms in these four towns, 87, or more than 9 per cent, were owned by women. Of these 87 farms, 41 were operated by their owners, and 46, or 53 per cent, were rented to tenants. Of the 870 farms owned by men, only 16 per cent were rented to tenants. The comparison shows that a much greater proportion of the women than of the men rented their farms in preference to assuming the direct management of them. This would naturally be expected. Altogether there were 181 rented farms, and 25 per cent of these were owned by women. Of the tenants on these 181 rented farms, only one was a woman. The average farm income made by these women was $428. Besides having the use of a house and farm products to eat, the average woman had $428 to live on, provided there was no previous indebtedness. This amount in the country, with no rent to pay, with at least half the table necessities and most of the fuel supplied, affords a comfortable living.

To return to the question of vocational training for girls in the productive industries, the ideals of such training must be first to train a girl that she may become self-supporting; second, to furnish a training which shall enable the worker to shift from one occupation to another allied occupation; third, to teach a girl to understand her relation to her employer, to her fellow worker and to her product; fourth, to train her to value health and to know how to keep and improve it; fifth, to develop a better woman while making a successful worker.

There are five types of vocational education for girls which are found in our schools:

1 Homemaking courses in the seventh and eighth grades. In these courses the girls devote ten hours a week to work in domestic art and science, and five hours a week to art and design as a subject correlated with the study of textiles and home decoration. The course in geography is arranged to deal with the nature of the region supplying the vegetable and animal materials with the qualifications of the raw material and its transportation. The work in history shows the development of the textile industries, the effect on the life of the people working in them due to the invention of weaving and spinning machinery. In an elementary way the girls

discuss the subject of unions and workers and consumers to bring out the idea that each organization is for the purpose of verifying the individual's endeavor to produce and consume under the best possible conditions and with the best possible results. Hudson and Schenectady have schools organized on this basis.

2 Preparatory trade schools giving half the school time to dressmaking, millinery and household science and the remainder to closely related academic work. These schools while giving training along lines of homemaking go more intensively into direct preparation for service in dressmaking and millinery trades. Such schools are expected to arouse a set of vocational interests apart from the vocation of homemaking and to furnish a training along these vocations of sufficient value so that the girl may go to work in these trades and earn a living from the start. It is not to be assumed that she is a full-fledged dressmaker or milliner but it is to be taken for granted that she has knowledge and skill far above that of the untrained worker. Albany, Rochester and Buffalo have such schools. The Buffalo school is at present looking into the possibility of continuation work for department store girls and in its preliminary survey expects to find out where girls work in large numbers, what is required of them and what the schools may do to improve conditions.

3 Trade schools proper which give most of their school time to intensive trade training and comparatively little to homemaking and academic subjects. Dressmaking and millinery are taught in all these schools. In addition power machine operating on cloth and straw hats, novelty work and trade art are given in the Manhattan Trade School of New York City. The novelty work includes the use of paste and glue in sample mounting, sample-book covers, labeling, tissue-paper novelties and decorations, the covering and lining of cases and boxes, jewelry and silverware casemaking, lamp and candle shade making. The work in trade art includes costume sketching, stamping and perforating. Drawing is closely related to all trade work. Pupils are urged to learn several lines of work so that during dull seasons in one trade other work may be open. Practically all the shopwork is on actual commercial products which are sold to individuals and firms at market prices. The value of the products sold in eighteen months was about $24,000. It is impossible at this writing to outline all the trades which may be taught in girls trade schools. A careful survey must be made in each city which expects to start such a school and the vocational

guidance bureaus have much to contribute in the solution of the problem.

4 Four-year courses in high school giving from one-third to one-half of the school time to handwork including applied art with specialization in the latter part of the course in one special field such as dressmaking or millinery or domestic science or commercial designing or illustrating and fashion drawing. Preparation for college is not the dominating aim in such a type of school. The academic subjects are not treated in the usual manner. Mathematics, for example, is taught more as a tool for use in the shop and in industry than as an abstract science. The science courses are likewise treated as applied science. The Washington Irving High School of New York City comes under this head. Graduates from this school are going out into the world earning a good living in making designs and drawings for fashion papers and as workers in millinery and dressmaking shops.

5 Evening classes. This work usually includes practical training in such subjects as cooking, needlework in plain sewing and garment making and the trimming of hats, all for domestic purposes. It may include and should include the training of girls in evening classes for dressmaking and millinery trades as well as giving them training in these lines as household accomplishments. There are six groups of girls to be considered in providing for evening instruction: (1) shop and factory girls who seek additional training looking to greater efficiency and wage-earning capacity in the occupations in which they are employed; (2) housewives and homemakers who seek training in the theory and technic of household economy; (3) girls engaged in household service who seek technical training in domestic economy looking to greater efficiency and wage-earning capacity in their calling; (4) shop and factory girls seeking training in order that they may shift from one wage-earning occupation to another closely related to the one in which they are engaged; (5) shop, factory, office and store girls who seek some simple training in some activity as a personal and convenient accomplishment but not looking toward following up this training for wage-earning purposes; (6) those girls of a type similar to the above who are now working but soon expect to enter the home as wives and homemakers.

In this connection it may be said that the training of young women in household arts where they have reached the age of evening class pupils will yield larger returns in proportion to the

amount of time devoted to it than similar training in any previous period of their lives, as such training is given to them at a time when the home-keeping instinct is a strong factor in their lives.

After a survey of the field has been made in order to plan a type of vocational school which will meet the needs of the girls of the community, there remains the problem of outlining a course of study. No single type of school will meet the requirements of the various localities of this State.

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